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Original Research Article

A study on primary caesarean section in multigravida patients at a tertiary care center

Sneha A. Mendapara*, Kamal D. Goswami

Department of Obstetrics and Gynecology, PDU Medical College and Hospital, Rajkot, Gujarat, India

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***Correspondence:**
Dr. Sneha A. Mendapara,
E-mail: snehamendapara1996@gmail.com

ABSTRACT

Background: Historically, most caesarean delivery took place because of or in association with obstetric complications or medical illness. However, rates of elective primary caesarean deliveries with no clear medical or obstetrical indication are rising dramatically. The most common indication for primary c-section include in order of frequency labor dystocia, abnormal or indeterminate fetal heartrate tracing, fetal malpresentation, multiple gestation, fetal macrosomia. Many other factors that have contributed to the increasing rate of caesarean include improved surgical technique and patient demand and pressure on caregivers to practice "defensive medicine". The increasing rate of caesarean section is a matter of international public health concern as it increases the caesarean related maternal morbidity and fetal complications as well as the cost of health care as compared to normal delivery.
Methods: This study was carried out in the Department of Obstetrics and Gynecology at PDU Medical College and Hospital Rajkot, Gujarat from January 2021 to June 2022.
Results: The study was conducted on 234 cases, the percentage of primary caesarean section in the study population of PDU Medical College Rajkot was found to be 2.96%. In this study, 38.46% of patients belonged to 26-30 year age group. In this study, 78.63% of multigravida patients were 2nd and 3rd para. There were 41.45% of cases underwent LSCS for foetal distress, 12.39% for antepartum haemorrhage, 12.82% for malpresentation and rest for various other indications. 33.33% of the study population in this study belonged to Robson's group 3, 26.92% were included in category 4a, 15.81% belonged to category 4b. Among all deliveries 94.87% were live births whereas 5.98% were still births.
Conclusions: Many unforeseen complications occur in women who previously had a normal vaginal delivery. It is recommended that all antenatal patients must be booked and receive proper and regular care. Also 100% deliveries in multigravida should be institutional deliveries in order to reduce maternal and perinatal morbidity and mortality.

Keywords: Defensive medicine, Robson's group 3

INTRODUCTION

Caesarean section rates have been increasing worldwide over the past few decades, within most countries and regions. The World Health Organization recommended rate of caesarean section is about 15% of all deliveries.[1] NFHS-5 found that caesarean section rate in India was 21.5% against last year NFHS-4 it was 17.2%.[2] This is higher than the WHO recommended limit. Private sector rate increases from 40.9% in NFHS-4 to 47.4% in NFHS-5 and public sector from 11.9% to 14.1% in NFHS-5.[2] Multigravida is women that has been pregnant for at least second time. Multipara means those who had delivered one or more after the age of viability.[3] Primary caesarean in multipara means first caesarean section done in patient who delivered vaginally once or more. Mainly the baby and placenta are responsible for caesarean section in multipara. The fact that once a woman delivered vaginally,

the family as well as the patient herself are reluctant and les attentive to regular antenatal health check-up which led to increased incidence of anemia, lack of early diagnosis of malpresentation and placentae previa. Most patients delivered by untrained persons at home and they seek medical care only when multiple complication become obvious and this is a matter of worry.[3] Aim of this study were to evaluate indications of primary caesarean section in multigravida patient and to evaluate feto-maternal outcomes.

METHODS

This was cross-sectional study conducted in the Pandit Deendayal Upadhyay Medical College and Civil Hospital Rajkot, India from January 2021 to June 2022 (1 year 6 months).

All the patients admitted in obstetrics department of Pandit Deendayal Upadhyay Medical College and Civil Hospital Rajkot, India during study period of January 2021 to June 2022 who delivered by primary caesarean section in multigravida patients and meets our inclusion criteria and willing to enrol in study are included in study. Standard case record sheet filled. All details of patient like basic demographic data, obstetric formula, indication of caesarean section, its intraoperative and post-operative complication, baby condition on delivery has been noted in case record sheet. Follow up of mothers and babies were taken till discharge from postnatal ward. Result of procedure with respect to intraoperative and postoperative complication, hospital stay, blood transfusion, perinatal mortality and morbidity all are noted.

Source of data

Cases of primary caesarean sections in multigravida patients performed at Pandit Deendayal Upadhyay Medical College, Civil Hospital Rajkot.

Study population

Multigravida patients delivered via primary caesarean section during study period.

Inclusion criteria

Inclusion criteria were the study was all the cases admitted in obstetrics and gynaecology department during study period, delivered by primary caesarean section in multigravida patients in our department due to any cause on obstetric grounds. Multigravida with pregnancy of more than 28 weeks gestation (Gravida 2 and above) each of them has previous at least one vaginal delivery of more than 28 weeks of gestation.

Exclusion criteria

Exclusion criteria were primary caesarean section in multigravida patients, done outside the Obstetrics and Gynaecology Department, Pandit Deendayal Upadhyay Medical College Rajkot. Primary caesarean section in multigravida patients, performed on medical ground. All primigravida patients. Patients with previous abortion and previous uterine scar were excluded from the study.

RESULTS

In this study, total deliveries were 7889. Total caesarean section was 2285 (28.96%) and total caesarean section in multigravida patients were 234 (2.96%) (Table 1).

Table 1: Incidence of caesarean section.

Total deliveries	Total caesarean section in multigravida	%of caesarean section in multigravida
7889	234	2.96

In present study most common indication for caesarean section was foetal distress (41.45%). Which included severe foetal distress and thick meconium stain liquor in early labour.

APH accounted for 12.39% cases from which 3.41% are abruptio placenta in which Caesarean decided to save life of pregnant women and low Bishop score. Major degree Placenta Previa was the common cause for CS (8.97%).

Severe oligohydramnios (6.84%) was third common indication found for Caesarean due to AFI less than 3cm.

In this study caesarean section for malpresentation was 12.82% in which most common was breech (6.41%) followed by transverse lie (4.70%), oblique lie (1.70%). Multigravida breech were considered for caesarean section due to more baby weight and non-willingness of the patients for vaginal breech trail at the time of consent taking.

Malposition account for 2.98% cases which include face presentation (1.70%) and brow presentation (1.28%). Cord abnormalities include cord presentation (0.85%) and cord prolapse (1.70%). Both are obstetric emergency that can have significant neonatal morbidity and mortality.

According to study, failed induction was reason for caesarean in 6.41% cases, non-progress of labour in 4.27% cases, obstructed labour in 3.41% cases.

As the foetal doppler is easily available, which is a valuable tool in assessment and prediction of adverse neonatal outcome 4.27% patients underwent caesarean section in case of doppler changes.

Caesarean section in multigravida due antepartum eclampsia is 1.70% which is mostly due to poor bishop's score.

Twin pregnancy (0.85%) with 1st baby other than vertex also account for caesarean section in some multigravida patients.

Table 2: Indication of primary caesarean section in multigravida patients (n=234).

Indications	No. of patients
Fetal distress	97
Major degree placenta previa	21
Severe oligohydroamnios	16
Breech	15
Failed induction	15
Non-progress of labour	10
Doppler changes	10
Abruptio placenta	8
Obstructed labour	8
Transverse lie	11
Face presentation	4
Cord prolapse	4
Antepartum eclampsia	4
Oblique lie	4
Brow presentation	3
Twin	2
Cord presentation	2

Most of the patients belong to Robson's category 3 (33.33%) which include caesarean section due indication such as foetal distress, MSL, non-progress of labour, obstructed labour. Category 4a include induced multigravida patients (26.92%), generally induced for premature rupture of membrane, postdate, preeclampsia. In study category 4b (15.81%) include prelabour caesarean section of multigravida patient for indication such as severe oligohydramnios, doppler changes and complete placenta previa (Table 3).

Majority of baby born alive (89.83%), only in few cases of caesarean section had been done despite of still born condition of foetus like complete placenta previa, transverse lie, obstructed labour. Neonatal death after caesarean section is mostly due to severe respiratory distress syndrome and prematurity (Table 4).

One of the patients develop bladder injury intraoperatively, in case where uterine scar extension occur from lower uterine margin. Rupture uterus was found intraoperatively during caesarean section done for obstructed labour. Other two cases of rupture uterus were found when caesarean taken for foetal distress. In all of them uterine conservative surgery done. Hysterectomy was done in case of complete placenta previa when bleeding from lower uterine segment was not controlled despite of every measure (Table 5).

Table 3: As per Robson's classification.

Robson's category		No. of patients (n=234)
3	Multiparous women, without uterine scar, single tone, cephalic, >=37weeks, spontaneous labour	78
4a	Multiparous women, without uterine scar, single tone, cephalic, >=37weeks, induced labour	63
4b	Multiparous women, without uterine scar, single tone, cephalic, >=37weeks, caesarean section before labour	37
7	All multiparous breeches	15
8	All multiple pregnancies	2
9	All pregnancies with transverse or oblique lie	11
10	Single tone, cephalic, <=36weeks	28

Table 4: Baby outcome.

Baby outcome	No. of patients
Live birth	212
Still birth	14
Neonatal death	10
Total	236

Table 5: Intraoperative complication.

Intra operative complication	No. of patients
Rupture uterus	3
Bladder injury	1
Obstetric hysterectomy	1

Table 6: Postoperative complications.

Post operative complication	No. of patients
Paralytic ileus	8
SSI	5
Blood transfusion	41

In this study 41 patients were required blood transfusion post operatively due to anaemia. Eight patients were developed Paralytic ileus treated conservatively. Only 5 patients were diagnosed SSI (Table 6).

DISCUSSION

Incidence

In this study the incidence of caesarean section in multigravida patients was 2.96% which was slightly lower than the study conducted by Rajput et al which was 4.71%.[4]

Age

Maximum number of patients belonged to the age group between 26-30 years which account for 38.46% of all ceaserean deliveries which was consistent with a study conducted by Meena et al.[5]

Parity

In this study 78.63% of multigravida patients were 2nd and 3rd para. Fifty patients were of grand multipara. In study conducted by Rajput et al distribution of patients according to parity shows that most of the patients (49.73%) were Gravida-2 followed by Gravida-3 (32.12%).[4]

Referral status

Out of 234 patients, 149 (63.67%) cases were referred due to trial given in peripheral centre but referred due to various condition like prolong labour, obstructed labour, PROM, foetal distress etc. Few patients have been referred due to unavailability of specialist doctors. Which was higher than the study conducted by Rajput et al as study center is a tertiary care hospital.[4]

Indication

The most common cause of ceaserean section in multigravida in this study was fetal distress (41.45%) followed by malpresentation (12.39%). In a study conducted by Rajput et al, the most common indication was malpresentation (29.79%) followed by fetal distress (18.39%).[4]

Emergency vs elective cs

Majority of the patients (94.87%) underwent emergency caesarean section were due to foetal distress followed by failed inductions, prolong and obstructed labour. Only 12 (5.13%) had elective caesarean section. Elective caesarean section done in cases such as severe oligohydramnios, doppler changes, placenta previa. It is consistent with the study conducted by Hangarga et al.[6]

Spinal vs general anaesthesia

Few patients (13.67%) were taken under general anaesthesia for the indication like cord prolapse, antepartum eclampsia and foetal distress. Rest Caesarean Section done under regional anaesthesia. In the study by Hangarga et al, 94% ceaserean sections were performed under spinal anaesthesia.[6]

Perinatal mortality

The perinatal mortality rate of our study was 10.25% similar to Omar et al which was 11.1%.[7]

Postoperative complications

In this study rate of paralytic ileus was 3.4% which was very low as compared to Desai et al which was 13.95%.[8] Whereas the rate of SSI was 2.13% compared to 2.85% of Rajput et al.[4]

This study has some limitations. Need more studies to convey conclusion of study, need more follow-up in neonates.

CONCLUSION

As per this study in institute of primary caesarean section in multigravida patients accounted for only 2.96% of total deliveries, this is due to judicial induction policy, trail of labour and use of instrumental delivery in required cases. Multiparity with previous vaginal delivery is regarded as an optimistic historical fact, not a diagnostic criterion for spontaneous delivery in the next pregnancy. Repeated training of residents on labour management, instrumental deliveries, CTG interpretation, use of infusion pumps for correct titration of oxytocin needed. One of cause of foetal distress is hyperstimulation of uterus which also lead to meconium stain liquor. Caesarean section for breech presentation can be reduced by training residents in the art of breech delivery and external cephalic version in antenatal period. Same way internal podalic version can decrease rate of sections due to transverse lie. Judicial induction can reduce rate of caesarean section due to failed induction. Induction for postdate should be done at 41 weeks. It is recommended that all antenatal patients must

be receive proper and regular antenatal care and 100% institutional deliveries. It is possible by various health campaign and awareness programmes. It should start from school only, as part of adolescent girl health programmes. Ultimately, our goal should be a healthy new born in a lap of healthy mother.

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